

West Virginia Department of Environmental Protection
Earl Ray Tomblin
Governor

Division of Air Quality

Randy C. Huffman
Cabinet Secretary

Permit to Construct



DRAFT R13- 3214

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

Triad Hunter, LLC
Stewart Winland Production Facility
095-00042

William F. Durham
Director

Issued: DRAFT • Effective: DRAFT

Facility Location: Middlebourne, Tyler County, West Virginia
Mailing Address: 125 Putnam Street; Marietta, OH 45750
Facility Description: Natural Gas Well Pad and Production Facility
NAICS Codes: 211111
UTM Coordinates: 505.10505 km Easting • 4,373.28351 km Northing • Zone 17
Permit Type: Construction
Description of Change: Natural Gas Well Pad and Production Facility

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

The source is not subject to 45CSR30.

Table of Contents

| | | |
|-------------|---|-----------|
| 1.0. | Emission Units | 6 |
| 1.1. | Control Devices..... | 7 |
| 2.0. | General Conditions..... | 8 |
| 2.1. | Definitions | 8 |
| 2.2. | Acronyms..... | 8 |
| 2.3. | Authority..... | 9 |
| 2.4. | Term and Renewal | 9 |
| 2.5. | Duty to Comply | 9 |
| 2.6. | Duty to Provide Information | 9 |
| 2.7. | Duty to Supplement and Correct Information..... | 10 |
| 2.8. | Administrative Update | 10 |
| 2.9. | Permit Modification | 10 |
| 2.10. | Major Permit Modification | 10 |
| 2.11. | Inspection and Entry | 10 |
| 2.12. | Emergency | 10 |
| 2.13. | Need to Halt or Reduce Activity Not a Defense | 11 |
| 2.14. | Suspension of Activities | 11 |
| 2.15. | Property Rights | 11 |
| 2.16. | Severability | 12 |
| 2.17. | Transferability..... | 12 |
| 2.18. | Notification Requirements | 12 |
| 2.19. | Credible Evidence..... | 12 |
| 3.0. | Facility-Wide Requirements..... | 13 |
| 3.1. | Limitations and Standards | 13 |
| 3.2. | Monitoring Requirements | 13 |
| 3.3. | Testing Requirements | 13 |
| 3.4. | Recordkeeping Requirements | 15 |
| 3.5. | Reporting Requirements | 15 |
| 4.0. | Source-Specific Requirements..... | 17 |
| 4.1. | Limitations and Standards | 17 |
| 5.0. | Source-Specific Requirements (Engines, CE-1, CE-2, and CE-3) | 18 |
| 5.1. | Limitations and Standards | 18 |
| 5.2. | Monitoring Requirements | 19 |
| 5.3. | Testing Requirements | 20 |
| 5.4. | Recordkeeping Requirements | 20 |
| 5.5. | Reporting Requirements | 20 |
| 6.0. | Source-Specific Requirements (GPU Heaters (HTR-1 thru HTR-10) and Dehydration Unit Reboiler (HTR-11))..... | 20 |
| 6.1. | Limitations and Standards | 20 |
| 6.2. | Monitoring Requirements | 21 |
| 6.3. | Testing Requirements | 21 |
| 6.4. | Recordkeeping Requirements | 21 |
| 6.5. | Reporting Requirements | 21 |

| | | |
|--------------|--|-----------|
| 7.0. | Source-Specific Requirements (Storage Tanks (T-01thru T-10)) | 21 |
| 7.1. | Limitations and Standards | 21 |
| 7.2. | Monitoring Requirements | 24 |
| 7.3. | Testing Requirements | 25 |
| 7.4. | Recordkeeping Requirements | 25 |
| 7.5. | Reporting Requirements | 26 |
| 8.0. | Source-Specific Control Requirements (Vapor Recovery Unit(VRU), Vapor Combustor Units (VCU-1 thru VCU-4)) | 26 |
| 8.1. | Limitations and Standards | 26 |
| 8.2. | Monitoring Requirements | 30 |
| 8.3. | Testing Requirements | 31 |
| 8.4. | Recordkeeping Requirements | 32 |
| 8.5. | Reporting Requirements | 33 |
| 9.0. | Source-Specific Requirements (Tank Truck Loading (TT Load)) | 34 |
| 9.1. | Limitations and Standards | 34 |
| 9.2. | Recordkeeping Requirements | 34 |
| 10.0 | Source-Specific Requirements (Glycol Dehydration Unit)..... | 35 |
| 10.1. | Limitations and Standards | 35 |
| 10.2. | Monitoring Requirements | 36 |
| 10.3. | Testing Requirements | 317 |
| 10.4. | Recordkeeping Requirements | 37 |
| 10.5. | Reporting Requirements | 337 |
| 11.0. | Source-Specific Requirements (40CFR60 Subpart OOOO Requirements, Gas Well Affected Facility) | 38 |
| 10.1. | Limitations and Standards | 388 |
| 10.2. | Initial Compliance Demonstration | 39 |
| 10.3. | Continuous Compliance Demonstration | 39 |
| 10.4. | Notification, Recordkeeping and Reporting Requirements | 41 |
| 12.0 | Source-Specific Requirements (40CFR60 Subpart OOOO Requirements, Pneumatic Controllers Affected Facility) | 42 |
| 12.1. | Limitations and Standards | 42 |
| 12.2. | Monitoring Requirements | 42 |
| 12.3. | Testing Requirements | 45 |
| 12.4. | Recordkeeping Requirements | 45 |
| 12.5. | Reporting Requirements | 46 |
| 13.0. | Source-Specific Requirements (40CFR60 Subpart JJJJ Requirements (CE-1, CE-2, and CE-3)) | 47 |
| 13.1. | Limitations and Standards | 47 |
| 13.2. | Compliance Requirements | 478 |
| 13.3. | Performance Testing for Non-Certified Engine Requirements | 49 |
| 13.4. | Notification, Reporting, Recordkeeping Requirements | 51 |
| 14.0. | Source-Specific Requirements (40CFR63 Subpart ZZZZ Requirements (CE-1, CE-2, and CE-3))..... | 52 |
| 14.1. | Limitations and Standards | 52 |

| | | |
|---------------------------------------|---|-----------|
| 15.0 | Source-Specific Requirements Dehydration Units With Exemption from NESHAP Standard, Subpart HH § 63.764(d) | 52 |
| 15.1. | Limitations and Standards | 52 |
| 15.2. | Monitoring Requirements | 56 |
| 15.3. | Testing Requirements | 56 |
| 15.4. | Recordkeeping Requirements | 57 |
| 15.5. | Reporting Requirements | 57 |
| CERTIFICATION OF DATA ACCURACY | | 58 |

1.0. Emission Units

| Emission Unit ID | Emission Point ID | Emission Unit Description | Year Installed/Modified | Design Capacity | Control Device |
|------------------|-------------------|---|-------------------------|-----------------|----------------|
| CE-1 | 1E | Residue Gas Compressor Engine (Caterpillar 3516B) | 2014 | 1380 HP | 1C (SCR) |
| CE-2 | 2E | Residue Gas Compressor Engine (Caterpillar 3516B) | 2014 | 1380 HP | 2C (SCR) |
| CE-3 | 3E | Flash Gas Compressor Engine (Cummins G5.9) | 2014 | 84 HP | 3C (NSCR) |
| VCU-1 | 4E-1 | Enclosed Combustor; COMM OOOO Combustor 200 | 2014 | 7.7 MMBTU/hr | N/A |
| VCU-2 | 4E-2 | Enclosed Combustor; COMM OOOO Combustor 200 | 2014 | 7.7 MMBTU/hr | N/A |
| VCU-3 | 4E-3 | Enclosed Combustor; COMM OOOO Combustor 200 | 2014 | 7.7 MMBTU/hr | N/A |
| VCU-4 | 4E-4 | Enclosed Combustor; COMM OOOO Combustor 200 | 2014 | 7.7 MMBTU/hr | N/A |
| TT LOAD | 17E/4E | Tank Truck Loading | 2014 | 10 MM Gal/yr | VRU/VCU |
| T01 | 17E/4E | Condensate Tank | 2014 | 500 BBL | VRU/VCU |
| T02 | 17E/4E | Condensate Tank | 2014 | 500 BBL | VRU/VCU |
| T03 | 17E/4E | Condensate Tank | 2014 | 500 BBL | VRU/VCU |
| T04 | 17E/4E | Condensate Tank | 2014 | 500 BBL | VRU/VCU |
| T05 | 17E/4E | Condensate Tank | 2014 | 500 BBL | VRU/VCU |
| T06 | 17E/4E | Produced Water Tank | 2014 | 500 BBL | VRU/VCU |
| T07 | 17E/4E | Produced Water Tank | 2014 | 500 BBL | VRU/VCU |
| T08 | 17E/4E | Produced Water Tank | 2014 | 500 BBL | VRU/VCU |
| T09 | 17E/4E | Produced Water Tank | 2014 | 500 BBL | VRU/VCU |
| T10 | 17E/4E | Produced Water Tank | 2014 | 500 BBL | VRU/VCU |
| HTR-1 | 5E | Marcellus GPU Heater | 2014 | 1.0 MMBtu/hr | None |
| HTR-2 | 6E | Marcellus GPU Heater | 2014 | 1.0 MMBtu/hr | None |
| HTR-3 | 7E | Marcellus GPU Heater | 2014 | 1.0 MMBtu/hr | None |
| HTR-4 | 8E | Marcellus GPU Heater | 2014 | 1.0 MMBtu/hr | None |

| Emission Unit ID | Emission Point ID | Emission Unit Description | Year Installed/Modified | Design Capacity | Control Device |
|---------------------------|-------------------|--|-------------------------|--------------------------|----------------|
| HTR-5 | 9E | Marcellus GPU Heater | 2014 | 1.0 MMBtu/hr | None |
| HTR-6 | 10E | Marcellus GPU Heater | 2014 | 1.0 MMBtu/hr | None |
| HTR-7 | 11E | Marcellus GPU Heater | 2014 | 1.0 MMBtu/hr | None |
| HTR-8 | 12E | Marcellus GPU Heater | 2014 | 1.0 MMBtu/hr | None |
| HTR-9 | 13E | Utica GPU Heater | 2014 | 2.0 MMBtu/hr | None |
| HTR-10 | 14E | Utica GPU Heater | 2014 | 2.0 MMBtu/hr | None |
| HTR-11 | 15E | Dehydration Unit Reboiler/Condenser | 2014 | 1.0 MMBtu/hr | None |
| RSV-1 | 16E | Dehydration Still and Flash Tank (Exterranean) | 2014 | 80 MM SCFD | HTR-11 VRU/VCU |
| TT Load, T01 – T10, RSV-1 | 17E | Vapor Recovery Unit with Electric Driver | 2014 | 99.8% Capture Efficiency | None |

1.1. Control Devices

| Control Device | Control Device Description | Pollutant | Emission Point ID | Control Efficiency |
|----------------|--|--------------|-------------------|--------------------|
| 1C | SCR; Catalytic Converter Model DCL DC64L2-16 | CO | 1E | 85% |
| | | VOC | | 80% |
| | | Formaldehyde | | 70% |
| 2C | SCR; Catalytic Converter Model DCL DC64L2-16 | CO | 2E | 85% |
| | | VOC | | 80% |
| | | Formaldehyde | | 70% |
| 3C | NSCR; Catalyst Model VXC-1408-04-XC1 | CO | 3E | 86.3% |
| | | VOC | | 18.2% |
| | | NOX | | 91.2% |
| HTR-11 | Dehydration Unit Reboiler & Condenser System | VOC | 15E | 98% |
| VCU* | COMM OOOO Combuster 200 | VOC | 4E** | 99.5% |

* Includes VCU-1, VCU-2, VCU-3, and VCU-4

** Includes 4E-1, 4E-2, 4E-3, 4E-4

2.0. General Conditions

2.1. Definitions

- 2.1.1. All references to the “West Virginia Air Pollution Control Act” or the “Air Pollution Control Act” mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The “Clean Air Act” means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. “Secretary” means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary’s designated representative for the purposes of this permit.

2.2. Acronyms

| | | | |
|-----------------------------|---|--------------------------------|---|
| CAAA | Clean Air Act Amendments | NO_x | Nitrogen Oxides |
| CBI | Confidential Business Information | NSPS | New Source Performance Standards |
| CEM | Continuous Emission Monitor | PM | Particulate Matter |
| CES | Certified Emission Statement | PM_{2.5} | Particulate Matter less than 2.5 µm in diameter |
| C.F.R. or CFR | Code of Federal Regulations | PM₁₀ | Particulate Matter less than 10µm in diameter |
| CO | Carbon Monoxide | Ppb | Pounds per Batch |
| C.S.R. or CSR | Codes of State Rules | Pph | Pounds per Hour |
| DAQ | Division of Air Quality | Ppm | Parts per Million |
| DEP | Department of Environmental Protection | Ppm_v or ppmv | Parts per Million by Volume |
| dscm | Dry Standard Cubic Meter | PSD | Prevention of Significant Deterioration |
| FOIA | Freedom of Information Act | Psi | Pounds per Square Inch |
| HAP | Hazardous Air Pollutant | SIC | Standard Industrial Classification |
| HON | Hazardous Organic NESHAP | SIP | State Implementation Plan |
| HP | Horsepower | SO₂ | Sulfur Dioxide |
| lbs/hr | Pounds per Hour | TAP | Toxic Air Pollutant |
| LDAR | Leak Detection and Repair | TPY | Tons per Year |
| M | Thousand | TRS | Total Reduced Sulfur |
| MACT | Maximum Achievable Control Technology | TSP | Total Suspended Particulate |
| MDHI | Maximum Design Heat Input | USEPA | United States Environmental Protection Agency |
| MM | Million | UTM | Universal Transverse Mercator |
| MMBtu/hr or mmbtu/hr | Million British Thermal Units per Hour | VEE | Visual Emissions Evaluation |
| MMCF/hr or mmcf/hr | Million Cubic Feet per Hour | VOC | Volatile Organic Compounds |
| NA | Not Applicable | VOL | Volatile Organic Liquids |
| NAAQS | National Ambient Air Quality Standards | | |
| NESHAPS | National Emissions Standards for Hazardous Air Pollutants | | |

2.3. Authority

This permit is issued in accordance with West Virginia air pollution control law W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation*;

2.4. Term and Renewal

- 2.4.1. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R13-3214 and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and -10.3.]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.

[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. Emergency

- 2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by

improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

- 2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.
- 2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
 - d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. [45CSR§13-10.1.]

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1] *[State Enforceable Only]*
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

[Reserved]

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling

connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language;
 2. The result of the test for each permit or rule condition; and,
 3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.
- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. State Enforceable Only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

If to the US EPA:

Associate Director
Office of Air Enforcement and Compliance
Assistance
(3AP20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. Operating Fee

- 3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a

Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

- 4.1.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:
- The date, place as defined in this permit, and time of sampling or measurements;
 - The date(s) analyses were performed;
 - The company or entity that performed the analyses;
 - The analytical techniques or methods used;
 - The results of the analyses; and
 - The operating conditions existing at the time of sampling or measurement.
- 4.1.2. **Minor Source of Hazardous Air Pollutants (HAP).** HAP emissions from the facility shall be less than 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs. Compliance with this Section shall ensure that the facility is a minor HAP source.
- 4.1.3. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]
- 4.1.4. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
- The equipment involved.
 - Steps taken to minimize emissions during the event.
 - The duration of the event.
 - The estimated increase in emissions during the event.
- For each such case associated with an equipment malfunction, the additional information shall also be recorded:
- The cause of the malfunction.
 - Steps taken to correct the malfunction.
 - Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
- 4.1.5. The permittee shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to prevent any substantive fugitive escape of regulated air pollutants. Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for substantive fugitive emissions of regulated air pollutants shall be replaced.

5.0. Source-Specific Requirements (Engines, CE-1, CE-2, and CE-3)

5.1. Limitations and Standards

- 5.1.1. The quantity of natural gas that shall be consumed in the natural gas fired engines shall not exceed the following:

| Emission Unit ID | Emission Unit Description | Maximum Hourly Throughput (scf/hr) | Maximum Annual Throughput (mmscf/yr) |
|------------------|---------------------------|------------------------------------|--------------------------------------|
| CE-1 | 1380 hp Caterpillar 3516B | 10,198 | 89.33 |
| CE-2 | 1380 hp Caterpillar 3516B | 10,198 | 89.33 |
| CE-3 | 84 hp Cummins G5.9 | 591 | 5.18 |

- 5.1.2. Maximum emissions from natural gas fired engines shall not exceed the following limits:

| Emission Unit | Pollutant | Maximum Hourly Emissions (lb/hr) | Maximum Annual Emissions (ton/year) |
|---------------|----------------------------|----------------------------------|-------------------------------------|
| CE-1 | Nitrogen Oxides | 1.52 | 6.66 |
| | Carbon Monoxide | 1.23 | 5.38 |
| | Volatile Organic Compounds | 0.29 | 1.28 |
| | Formaldehyde | 0.39 | 1.72 |
| CE-2 | Nitrogen Oxides | 1.52 | 6.66 |
| | Carbon Monoxide | 1.23 | 5.38 |
| | Volatile Organic Compounds | 0.29 | 1.28 |
| | Formaldehyde | 0.39 | 1.72 |
| CE-3 | Nitrogen Oxides | 0.19 | 0.81 |
| | Carbon Monoxide | 0.37 | 1.62 |
| | Volatile Organic Compounds | 0.02 | 0.07 |

- 5.1.3. The reciprocating internal combustion engines listed in the General Permit Registration shall be operated and maintained as follows:

- in accordance with the manufacturer's recommendations and specifications or in accordance with a site specific maintenance plan;
- in a manner consistent with good operating practices; and
- shall only burn natural gas.

- 5.1.4. Requirements for Use of Catalytic Reduction Devices:

- Rich-burn natural gas-fired compressor engine equipped with non-selective catalytic reduction (NSCR) air pollution control devices shall be fitted with a closed-loop, automatic air/fuel ratio controller to ensure emissions of regulated pollutants do not exceed the potential to emit for any engine/NSCR combination under varying load. The closed-loop,

automatic air/fuel ratio controller shall control a fuel metering valve to ensure a fuel-rich mixture and a resultant exhaust oxygen content of less than or equal to 0.5%.

- b. Lean-burn natural gas compressor engines equipped with selective catalytic reduction (SCR) air pollution control devices shall be fitted with a closed-loop automatic feedback controller to ensure emissions of regulated pollutants do not exceed the potential to emit for any engine/SCR combination under varying load. The closed-loop automatic feedback controller shall provide proper and efficient operation of the engine, ammonia injection and SCR device, monitor emission levels downstream of the catalyst element and limit ammonia slip to less than 10 ppm_v.
 - c. Reserved.
 - d. For natural gas compressor engines, the permittee shall monitor the temperature to the inlet of the catalyst and in accordance with manufacturer's specifications; a high temperature alarm shall shut off the engine before thermal deactivation of the catalyst occurs. If the engine shuts off due to high temperature, the permittee shall also check for thermal deactivation of the catalyst before normal operations are resumed.
 - e. The permittee shall follow a written operation and maintenance plan that provides the periodic and annual maintenance requirements.
 - f. Upon request by the Director, testing shall be conducted using a portable analyzer in accordance with a protocol approved by the Director. Such controls shall ensure proper and efficient operation of the engine and air pollution control devices.
- 5.1.5. Notwithstanding the provisions of subsection 2.19 of 45CSR13, any natural gas compressor which is equipped with a catalytic converter which is integral to the unit shall have its potential to emit determined taking into consideration reductions achieved by the catalytic converter. Said catalytic converter must be interlocked in such a way as to not allow operation of the engine without operation of the catalytic converter. The catalytic converter shall have the catalyst replaced every 45,000 hours of operation or every ten (10) years, whichever is earlier, as established by records kept by the source, unless the Secretary approves an alternative method of verifying catalyst effectiveness. [45CSR13-2.19.a]

5.2. Monitoring Requirements

5.2.1. Catalytic Oxidizer Control Devices

- a. The permittee shall regularly inspect, properly maintain and/or replace catalytic reduction devices and auxiliary air pollution control devices to ensure functional and effective operation of the engine's physical and operational design. The permittee shall ensure proper operation, maintenance and performance of catalytic reduction devices and auxiliary air pollution control devices by:
 - 1. Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller.
 - 2. Following the catalyst manufacturer emissions related operating and maintenance recommendations, or develop, implement, and follow a site-specific maintenance plan.

5.3. Testing Requirements

- 5.3.1. See Facility-Wide Testing Requirements Section 3.3.

5.4. Recordkeeping Requirements

- 5.4.1. To demonstrate compliance with sections 5.1.1 – 5.1.2, the permittee shall maintain monthly and yearly records of the amount of natural gas consumed and the hours of operation of each engine. Annual compliance will be demonstrated on a 12-month rolling basis.
- 5.4.2. To demonstrate compliance with section 5.1.3, the permittee shall maintain records of the maintenance performed on each engine. Records shall include as a minimum the date that the maintenance was performed, an indication whether or not the maintenance was preventative or as a result of failure, and the maintenance that was performed.
- 5.4.3. To demonstrate compliance with section 5.1.5, the permittee shall maintain records of the catalyst changes, including the hours of operation since the last catalyst change. The records shall also indicate the date of the last catalyst change. If an alternate method previously approved by the Secretary is used, then the corresponding records shall be maintained to demonstrate compliance.
- 5.4.4. To demonstrate compliance with sections 5.2.1, the permittee shall maintain a copy of the site specific maintenance plan.
- 5.4.5. All records required by this section shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

5.5. Reporting Requirements

- 5.5.1. See Facility-Wide Reporting Requirements Section 3.5 and Section 11.4.

6.0. Source-Specific Requirements (GPU Heaters (HTR-1 thru HTR-10) and Glycol Dehydration Unit Reboiler (HTR-11))

6.1. Limitations and Standards

- 6.1.1. Maximum Design Heat Input. The maximum design heat input (MDHI) for each of the GPU Heaters and the Dehydration Unit Reboiler shall not exceed the design capacity listed in Table 1.0 of this permit.
- 6.1.2. The total quantity of natural gas consumed in the GPU Heaters (HTR-1 thru HTR-10) and the Reboiler shall not exceed 95.3 MM scfy on an annual basis. Compliance with the annual throughput limit shall be demonstrated using a twelve month rolling total. A twelve month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.
- 6.1.3. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.
[45CSR§2-3.1.]

6.2. Monitoring Requirements

- 6.2.1. At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with Section 6.1.2. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.

6.3. Testing Requirements

- 6.3.1. When monitoring is required by 6.2.1, compliance with the visible emission requirements of section 6.1.3 shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9, Method 22, or by using measurements from continuous opacity monitoring systems approved by the Director. The Director may require the installation, calibration, maintenance and operation of continuous opacity monitoring systems and may establish policies for the evaluation of continuous opacity monitoring results and the determination of compliance with the visible emission requirements of section 6.1.3. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.
[45CSR§2-3.2.]

6.4. Recordkeeping Requirements

- 6.4.1. To demonstrate compliance with section 6.1.2 of this permit, the permittee shall maintain records on a monthly and yearly basis for the amount of natural gas consumed for the GPU Heaters. Said records shall be maintained on site or in a readily accessible off-site location maintained by the registrant for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 6.4.2. The permittee shall maintain records of all monitoring data required by Section 6.2.1 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6 - 10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9.

6.5. Reporting Requirements

- 6.5.1. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

7.0. Source-Specific Requirements (Storage Tanks (T01 thru T10))

7.1. Limitations and Standards

- 7.1.1. At all times, the permittee shall route all emissions from the Storage Tanks (T01 thru T10) to the Vapor Recover Unit (VRU) or to the Vapor Combustor Units (VCU-1 thru VCU-4) when the

Vapor Recover Unit is not operational. The vapor recovery system and vapor combustor units shall be designed, installed, and operated to achieve the 99.8% capture/control efficiency listed in Table 1.0 of this permit and in accordance with the requirements in Section 8.0 of this permit.

7.1.2. *Throughput Limitations.*

- i. The maximum annual throughput of condensate through the combined condensate storage tanks (T01 thru T05) shall not exceed 4,300,000 gallons/year. Compliance with the annual throughput limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the tank throughput at any given time during the previous twelve consecutive calendar months.
- ii. The maximum annual throughput of produced water through the combined produced water storage tanks (T06 thru T10) shall not exceed 3,024,000 gallons/yr. Compliance with the annual throughput limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the tank throughput at any given time during the previous twelve consecutive calendar months.

7.1.3. The permittee shall provide notification to DAQ if the condensate flash separator or the condensate tank that are upstream of the condensate storage tanks are removed from service. Notification shall be in accordance with requirements 7.5.1 of this permit.

7.1.4. *Cover Requirements.* The permittee shall comply with the following cover requirements for all condensate and produced water storage tanks (T01 thru T10) that have the emissions recovered and routed to the Vapor Recovery Unit (VRU):

- a. The cover and all openings on the cover (e.g., access hatches, sampling ports, pressure relief valves and gauge wells) shall form a continuous impermeable barrier over the entire surface area of the liquid in the storage vessel.
- b. Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in the unit on which the cover is installed except during those times when it is necessary to use an opening as follows:
 - (i) To add material to, or remove material from the unit (this includes openings necessary to equalize or balance the internal pressure of the unit following changes in the level of the material in the unit);
 - (ii) To inspect or sample the material in the unit;
 - (iii) To inspect, maintain, repair, or replace equipment located inside the unit; or
 - (iv) To vent liquids, gases, or fumes from the unit through a closed-vent system designed and operated in accordance with the requirements 7.1.5 of this section to a control device or to a process.

- c. Each Condensate Tank thief hatch shall be weighted and properly seated. You must select gasket material for the hatch based on composition of the fluid in the storage vessel and weather conditions.

[45CSR§13-5.11]

7.1.5. *Closed Vent Systems.* The permittee shall comply with the following closed vent system requirements for all condensate and produced water storage tanks (T01 thru T10):

- a. You must design the closed vent system to route all gases, vapors, and fumes emitted from the material in the storage vessels to the Vapor Recovery Unit (VRU).

- b. You must design and operate a closed vent system with no detectable emissions, as determined using olfactory, visual and auditory inspections.
- c. You must meet the requirements specified in paragraphs (i) and (ii) of this section if the closed vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device or to a process.
 - (i) Except as provided in paragraph (ii) of this section, you must comply with either paragraph (A) or (B) of this section for each bypass device.
 - A. You must properly install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that could divert the stream away from the control device or process to the atmosphere that sounds an alarm, or initiates notification via remote alarm to the nearest field office, when the bypass device is open such that the stream is being, or could be diverted away from the control device or process to the atmosphere.
 - B. You must secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car-seal or a lock-and-key type configuration.
 - (ii) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of paragraph (i) of this section.

[45CSR§13-5.11]

- 7.1.6. *Affected facility determination.* The permittee shall determine the storage vessel affected facility status in accordance with the applicability determination of 40 CFR 60, Subpart OOOO and provided below:

Each storage vessel affected facility, which is a single storage vessel located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment, and has the potential for VOC emissions equal to or greater than 6 tpy as determined according to this section by October 15, 2013 for Group 1 storage vessels and by April 15, 2014, or 30 days after startup (whichever is later) for Group 2 storage vessels.

A storage vessel affected facility that subsequently has its potential for VOC emissions decrease to less than 6 tpy shall remain an affected facility under this subpart.

The potential for VOC emissions must be calculated using a generally accepted model or calculation methodology, based on the maximum average daily throughput determined for a 30-day period of production prior to the applicable emission determination deadline specified in this section. The determination may take into account requirements under a legally and practically enforceable limit in an operating permit or other requirement established under a Federal, State, local or tribal authority. Any vapor from the storage vessel that is recovered and routed to a process through a VRU designed and operated as specified in this section is not required to be included in the determination of VOC potential to emit for purposes of determining affected facility status, provided you comply with the requirements in paragraphs (e)(1) through (4) of this section.

- (1) You meet the cover requirements specified in §60.5411(b).
- (2) You meet the closed vent system requirements specified in §60.5411(c).
- (3) You maintain records that document compliance with paragraphs (e)(1) and (2) of this section.

(4) In the event of removal of apparatus that recovers and routes vapor to a process, or operation that is inconsistent with the conditions specified in paragraphs (e)(1) and (2) of this section, you must determine the storage vessel's potential for VOC emissions according to this section within 30 days of such removal or operation.

[40 CFR 60.5365 (e); NSPS, Subpart OOOO]

7.2. Monitoring Requirements

- 7.2.1. The permittee shall inspect the seals on the condensate tanks daily as specified in the permit application.
- 7.2.2. To demonstrate compliance with the closed vent system requirements of Sections 7.1.4 and 7.1.5, the permittee shall:
- a. Initial requirements. Conduct an initial visual, olfactory, and auditory inspection for defects that could result in air emissions within 180 days of start-up. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.
 - i. The annual inspection shall include the bypass inspection, conducted according to paragraph (c) of this section.
 - ii. In the event that a leak or defect is detected, you must repair the leak or defect as soon as practicable. Grease or another applicable substance must be applied to deteriorating or cracked gaskets to improve the seal while awaiting repair.
 - iii. Delay of repair of a closed vent system for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, or if you determine that emissions resulting from immediate repair would be greater than the fugitive emission likely to result from delay of repair. You must complete repair of such equipment by the end of the next shutdown.
 - b. Continuous requirements. Conduct an annual visual, olfactory, and auditory inspection for defects that could result in air emissions. Defect include, but are not limited to, visible cracks, holes, or gaps in piping, loose connections; liquid leaks; or broken or missing caps or other closure devices.
 - i. The annual inspection shall be conducted within 365 calendar days from the date of the previous inspection or earlier.
 - ii. The annual inspection shall include the bypass inspection, conducted according to paragraph (c) of this section.
 - c. Bypass inspection. Visually inspect the bypass valve during the initial and annual inspection for the presence of the car seal or lock-and-key type configuration to verify that the valve is maintained in the non-diverting position to ensure that the vent stream is not diverted through the bypass device. If an alternative method is used, conduct the inspection of the bypass as described in the operating procedures.
 - d. Unsafe to inspect requirements. You may designate any parts of the closed vent system as unsafe to inspect if the requirements in paragraphs (i) and (ii) of this section are met. Unsafe to inspect parts are exempt from the inspection requirements of paragraphs (a) and (b) of this section.
 - i. You determine that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with the requirements.

- ii. You have a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.
- e. Difficult to inspect requirements. You may designate any parts of the closed vent system as difficult to inspect, if the requirements in paragraphs (i) and (ii) of this section are met. Difficult to inspect parts are exempt from the inspection requirements of paragraphs (a) and (b) of this section.
 - i. You determine that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface.
 - ii. You have a written plan that requires inspection of the equipment at least once every 5 years.

[45CSR§13-5.11]

7.3. Testing Requirements

Reserved.

7.4. Recordkeeping Requirements

- 7.4.1. All records required under Section 7.4 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 7.4.2. To demonstrate compliance with section 7.1.2, the permittee shall maintain aggregate throughput records for the condensate storage vessels (T01 thru T05) and the produced water storage vessels (T06 thru T10) on a monthly and rolling twelve month total.
- 7.4.3. To demonstrate compliance with the affected facility determination in section 7.1.6 of this permit, the permittee shall maintain records of the determination of the VOC emission rate per storage vessel, including identification of the model or calculation methodology used to calculate the VOC emission rate.
- 7.4.4. To demonstrate compliance with the condensate tank seal inspection required by section 7.2.1, the permittee shall maintain inspections of the daily inspections. The records shall include the time and date of all intentional openings for maintenance and repair and the time and date that they are re-sealed.
- 7.4.5. To demonstrate compliance with the closed vent monitoring requirements in section 7.2.2, the following records shall be maintained.
 - i. The initial compliance requirements;
 - ii. Each annual visual inspection conducted to demonstrate continuous compliance, including records of any repairs that were made as results of the inspection;
 - iii. Bypass requirements.
 - a. Each inspection or each time the key is checked out or a record each time the alarm is sounded;

- b. Each occurrence that the control device was bypassed. If the device was bypassed, the records shall include the date, time, and duration of the event and shall provide the reason the event occurred. The record shall also include the estimate of emissions that were released to the environment as a result of the bypass.
- iv. Any part of the system that has been designated as “unsafe to inspect” in accordance with 8.2.3.d or “difficult to inspect” in accordance with 8.2.3.e.
[45CSR§13-5.11]

7.5. Reporting Requirements

- 7.5.1. To demonstrate compliance with requirement 7.1.3 of this permit, the permittee shall notify the Director of the Division of Air Quality in writing if the condensate flash tank or condensate tower will be removed from service. The notification shall:
 - i. include revised flash emission calculations from the condensate storage tanks (T01 thru T05) based on analysis from a site specific sample to demonstrate that the permitted emission limits from emission points [17E/4E] will not be exceeded as a result of the change in the operating conditions;
 - ii. include the date that the condensate flash tank or condensate tower will be removed from service;
 - iii. be submitted no later than 30 days prior to the date that the condensate flash tank or condensate tower will be removed from service.

8.0. Source-Specific Requirements (Vapor Recovery Unit (VRU), Vapor Combustors (VCU-1 thru VCU-4))

8.1. Limitations and Standards

- 8.1.1. The permittee shall route all VOC and HAP vapors from the Storage Tanks (T01 – T10), from the Tank Truck Loading Area (TT Load), from the Dehydration Unit Flash Tank (RSV-1), and from the other process equipment identified in the permit application to the Vapor Recovering Unit (VRU) or the Vapor Combustor Units (VCU-1 thru VCU-4) prior to release to the atmosphere when the vapor recovery unit (VRU) is shut down. The Dehydration Unit Still Vent vapors shall be routed to the Vapor Combustor Units (VCU-1 thru VCU-4) prior to release to the atmosphere.
- 8.1.2. The vapor recovery system shall be designed, installed, and operated to achieve a minimum capture/control efficiency of 99.8% for volatile organic compound (VOC) and hazardous air pollutants (HAP) emissions. Vapors from the storage tanks, from tank truck loading, from the dehydration unit still vent shall be collected and compressed by the vapor recovery unit (VRU) and when the vapors are sufficiently compressed will be introduced into the inlet gas line and processed with the inlet gas.
- 8.1.3. The downtime to the Vapor Recovery System (VRU) shall not exceed 192 hours annually. The annual downtime shall be calculated based on a 12 month rolling total. A twelve month rolling total shall mean the sum of the tank throughput at any given time during the previous twelve consecutive calendar months.
- 8.1.4. The vapor combustor units (VCU-1 thru VCU-4) shall be designed, installed, and operated to achieve a minimum control efficiency of 99.5% for volatile organic compound (VOC) and hazardous air pollutants (HAP) emissions.

- 8.1.5. *Operation and Maintenance of Air Pollution Control Equipment.* The permittee shall, to the extent practicable, install, maintain, and operate the vapor recovery unit (VRU) and the vapor combustor units (VCU-1 thru VCU-4) and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR§13-5.11.]

- 8.1.6. Maximum emissions from the vapor recovery unit (VRU) emission point [17E] shall not exceed the following limits:

| Pollutant | Maximum Hourly Emissions (lb/hr) | Maximum Annual Emissions (ton/year) |
|----------------------------|----------------------------------|-------------------------------------|
| Volatile Organic Compounds | 4.76 | 20.86 |
| Total HAPs | 0.01 | 0.21 |

- 8.1.7. Maximum emissions from the combined vapor combustor units (VCU-1 thru VCU-4) emission point [4E] shall not exceed the following limits:

| Pollutant | Maximum Hourly Emissions (lb/hr) | Maximum Annual Emissions (ton/year) |
|----------------------------|----------------------------------|-------------------------------------|
| Nitrogen Oxides | 1.45 | 0.17 |
| Carbon Monoxide | 7.85 | 0.78 |
| Volatile Organic Compounds | 10.65 | 1.02 |
| Particulate Matter – 2.5 | 0.12 | 0.01 |
| Total HAPs | 0.03 | 0.01 |

- 8.1.8. *VRU Closed Vent Systems.* The permittee shall comply with the following closed vent system requirements for all vapors captured and routed to the vapor recovery unit (VRU):

- a. You must design the closed vent system to route all gases, vapors, and fumes emitted from the material in the storage vessels to the Vapor Recovery Unit (VRU).
- b. You must design and operate a closed vent system with no detectable emissions, as determined using olfactory, visual and auditory inspections.
- c. You must meet the requirements specified in paragraphs (i) and (ii) of this section if the closed vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device or to a process.
 - (i) Except as provided in paragraph (ii) of this section, you must comply with either paragraph (A) or (B) of this section for each bypass device.
 - A. You must properly install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that could divert the stream away from the control device or process to the atmosphere that sounds an alarm, or initiates notification via remote alarm to the nearest field office, when the bypass device is open such that the stream

is being, or could be diverted away from the control device or process to the atmosphere.

- B. You must secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car-seal or a lock-and-key type configuration.

(ii) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of paragraph (i) of this section.

[45CSR§13-5.11]

8.1.9. In addition to the sensing equipment that will trigger the vapor recovery unit (VRU) to turn on, the permittee shall meet the following additional requirements to claim 99.8% capture/control efficiency:

- a. Install additional sensing equipment to monitor the run status of the Vapor Recovery Unit (VRU). If the VRU shuts down, the vapors shall be automatically routed to an enclosed vapor combustor unit (VCU) that is designed and operated in accordance with the requirements of this permit section 8.0.
- b. Install a by-pass system which operates automatically whereby discharge is re-routed back to the inlet of the Vapor Recovery Unit (VRU) until the appropriate pressure is built up for the compressor to turn on.
- c. Install a blanket gas and have automatic throttling valves to ensure oxygen does not enter the tanks.
- d. Install a compressor that has the ability to vary the drive.

8.1.10. *Vapor Combustor Units (VCU-1 thru VCU-4)*. Vapors shall only be routed to the vapor combustion devices (VCU-1 thru VCU-4) when the Vapor Recovery Unit is shut down.

8.1.11. *Vapor Combustor Units (VCU-1 thru VCU-4)*. The vapor combustion devices (VCU-1 thru VCU-4) shall be designed and operated in accordance with the following:

- a. The VCUs shall be non-assisted.
- b. The VCUs shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
- c. The VCUs shall be operated, with a flame present at all times whenever emissions may be vented to them, except during SSM (Startup, Shutdown, Malfunctions) events.
- d. The VCU shall be used only where the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or where the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

H_T =Net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K=Constant=

$$1.740 \times 10^{-7} \left(\frac{1}{\text{ppmv}} \right) \left(\frac{\text{g-mole}}{\text{scm}} \right) \left(\frac{\text{MJ}}{\text{kcal}} \right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

C_i=Concentration of sample component i in ppmv on a wet basis, which may be measured for organics by Test Method 18, but is not required to be measured using Method 18 (unless designated by the Director).

H_i=Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 if published values are not available or cannot be calculated.

n=Number of sample components.

- e. Nonassisted VCUs shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided by 8.1.11.f and 8.1.11.g of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), by the unobstructed (free) cross-sectional area of the flare tip, which may be determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60, as appropriate, but is not required to be determined using these Methods (unless designated by the Director).
- f. Nonassisted VCUs designed for and operated with an exit velocity, as determined by the method specified in 8.1.4.e. of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).
- g. Nonassisted VCUs designed for and operated with an exit velocity, as determined by the method specified in 8.1.11.e. of this section, less than the velocity V_{max}, as determined by the calculation specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, V_{max}, for flares complying with this paragraph shall be determined by the following equation:
- $$\text{Log}_{10}(V_{\text{max}}) = (H_T + 28.8) / 31.7$$
- Where:
- V_{max}=Maximum permitted velocity, m/sec.
- 28.8=Constant.
- 31.7=Constant.
- H_T=The net heating value as determined in 8.1.11.d of this section
- 8.1.12. The permittee is not required to conduct a flare compliance assessment for concentration of sample (i.e. Method 18) and tip velocity (i.e. Method 2) until such time as the Director requests a flare compliance assessment to be conducted in accordance with section 8.3.2, but the permittee is required to conduct a flare design evaluation in accordance with section 8.4.8. Alternatively, the permittee may elect to demonstrate compliance with the flare design criteria requirements of section 8.1.11 by complying with the compliance assessment testing requirements of section 8.3.2.
- 8.1.13. *Vapor Combustor Units (VCU-1 thru VCU-4)*. The presence of a pilot flame shall be monitored using flame ionization and an automatic re-ignition system shall be used.
- 8.1.14. *Vapor Combustor Units (VCU-1 thru VCU-4)*. The vapor combustor units are subject to 45CSR6. The requirements of 45CSR6 include but are not limited to the following:
- i. No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is either 5.43 for an incinerator with a capacity of less than 15,000 lbs/hr or 2.72 for an incinerator with a capacity of 15,000 lbs/hr or greater. **[45CSR6 §4.1]**

- ii. No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater. **[45CSR6 §4.3]**
- iii. The provisions of paragraph (i) shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up. **[45CSR6 §4.4]**
- iv. No person shall cause or allow the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air. **[45CSR6 §4.5]**
- v. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors. **[45CSR6 §4.6]**
- vi. Due to unavoidable malfunction of equipment, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed five (5) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director. **[45CSR6 §8.2]**

8.2. Monitoring Requirements

- 8.2.1. The permittee shall monitor the throughput to the vapor recovery unit (VRU) and to the Vapor Combustor Units (VCU-1 thru VCU-4) on a monthly basis.
- 8.2.2. The permittee shall monitor the vapor recovery unit (VRU) in accordance with the plans and specifications and manufacturer's recommendations
- 8.2.3. To demonstrate compliance with the closed vent system requirements of Sections 8.1.8, the permittee shall:
 - a. Initial requirements. Conduct an initial visual, olfactory, and auditory inspection for defects that could result in air emissions within 180 days of start-up. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.
 - i. The annual inspection shall include the bypass inspection, conducted according to paragraph (c) of this section.
 - ii. In the event that a leak or defect is detected, you must repair the leak or defect as soon as practicable. Grease or another applicable substance must be applied to deteriorating or cracked gaskets to improve the seal while awaiting repair.
 - iii. Delay of repair of a closed vent system for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, or if you determine that emissions resulting from immediate repair would be greater than the fugitive emission likely to result from delay of repair. You must complete repair of such equipment by the end of the next shutdown.

- b. Continuous requirements. Conduct an annual visual, olfactory, and auditory inspection for defects that could result in air emissions. Defect include, but are not limited to, visible cracks, holes, or gaps in piping, loose connections; liquid leaks; or broken or missing caps or other closure devices.
 - i. The annual inspection shall be conducted within 365 calendar days from the date of the previous inspection or earlier.
 - ii. The annual inspection shall include the bypass inspection, conducted according to paragraph (c) of this section.
- c. Bypass inspection. Visually inspect the bypass valve during the initial and annual inspection for the presence of the car seal or lock-and-key type configuration to verify that the valve is maintained in the non-diverting position to ensure that the vent stream is not diverted through the bypass device. If an alternative method is used, conduct the inspection of the bypass as described in the operating procedures.
- d. Unsafe to inspect requirements. You may designate any parts of the closed vent system as unsafe to inspect if the requirements in paragraphs (i) and (ii) of this section are met. Unsafe to inspect parts are exempt from the inspection requirements of paragraphs (a) and (b) of this section.
 - i. You determine that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with the requirements.
 - ii. You have a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.
- e. Difficult to inspect requirements. You may designate any parts of the closed vent system as difficult to inspect, if the requirements in paragraphs (i) and (ii) of this section are met. Difficult to inspect parts are exempt from the inspection requirements of paragraphs (a) and (b) of this section.
 - i. You determine that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface.
 - ii. You have a written plan that requires inspection of the equipment at least once every 5 years.

[45CSR§13-5.11]

- 8.2.4 To demonstrate compliance with the VRU system 99.8% capture efficiency, the permittee shall
 - i. monitor and records the pressure in the storage tanks to demonstrate that gas is not escaping through the pressure relief valves on a continuous basis.
 - ii. monitor the run status of the vapor recovery unit (VRU) on a continuous basis.
- 8.2.5. In order to demonstrate compliance with the requirements of 8.1.11.c, the permittee shall monitor the presence or absence of a flare pilot flame using a thermocouple or any other equivalent device, except during SSM events.

8.3. Testing Requirements

- 8.3.1. In order to demonstrate compliance with the flare opacity requirements of 8.1.11.b the permittee shall conduct a Method 22 opacity test for at least two hours. This test shall demonstrate no visible emissions are observed for more than a total of 5 minutes during any 2 consecutive hour

period using 40CFR60 Appendix A Method 22. The permittee shall conduct this test within one (1) year of permit issuance or initial startup whichever is later. The visible emission checks shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR part 60, appendix A, Method 22 or from the lecture portion of 40 CFR part 60, appendix A, Method 9 certification course.

- 8.3.2. The Director may require the permittee to conduct a flare compliance assessment to demonstrate compliance with section 8.1.11. This compliance assessment testing shall be conducted in accordance with Test Method 18 for organics and Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60, as appropriate, or other equivalent testing approved in writing by the Director. Also, Test Method 18 may require the permittee to conduct Test Method 4 in conjunction with Test Method 18.

8.4. Recordkeeping Requirements

- 8.4.1. All records required under Section 8.4 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 8.4.2. The permittee shall document and maintain the corresponding records specified by the on-going monitoring requirements of Section 8.2 and testing requirements of Section 8.3.
- 8.4.3. To demonstrate compliance with requirements 8.1.2 and 8.1.3, the permittee shall maintain a copy all design records of the process and any downtime hours associated with the vapor recovery unit (VRU).
- 8.4.4. The permittee shall maintain records of the additional monitoring required in Section 8.1.9 and 8.2.4 to demonstrate compliance with the 99.8% control efficiency claimed in Section 8.1.2.
- 8.4.5. To demonstrate compliance with the emission limits established in Sections 8.1.6 and 8.1.7, the permittee shall maintain records of the throughput monitoring required by Section 8.2.1.
- 8.4.6. To demonstrate compliance with the closed vent monitoring requirements of Section 8.1.8, the following records shall be maintained.
- i. The initial compliance requirements;
 - ii. Each annual visual inspection conducted to demonstrate continuous compliance, including records of any repairs that were made as results of the inspection;
 - iii. Bypass requirements.
 - a. Each inspection or each time the key is checked out or a record each time the alarm is sounded;
 - b. Each occurrence that the control device was bypassed. If the device was bypassed, the records shall include the date, time, and duration of the event and shall provide the reason the event occurred. The record shall also include the estimate of emissions that were released to the environment as a result of the bypass.

- iv. Any part of the system that has been designated as “unsafe to inspect” in accordance with 8.2.3.d or “difficult to inspect” in accordance with 8.2.3.e.
[45CSR§13-5.11]

- 8.4.7. For the purpose of demonstrating compliance with section 8.1.11.c and 8.2.5, the permittee shall maintain records of the times and duration of all periods which the pilot flame was absent.
- 8.4.8. For the purpose of demonstrating compliance with section 8.1.11 and 8.3.2, the permittee shall maintain a record of the flare design evaluation. The flare design evaluation shall include, net heat value calculations, exit (tip) velocity calculations, and all supporting concentration calculations and other related information requested by the Director.
- 8.4.9. For the purpose of demonstrating compliance with section 8.1.11.b, the permittee shall maintain records of the visible emission opacity tests conducted per Section 8.3.1.
- 8.4.10. *Record of Maintenance.* The permittee shall maintain accurate records of the vapor recovery unit (VRU) and the vapor combustor units (VCU-1 thru VCU-4) equipment inspections and/or preventative maintenance procedures.
- 8.4.11. *Record of Malfunctions.* The permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the vapor recovery unit (VRU) or the vapor combustor units (VCU-4 thru VCU-4). For each such case, the following information shall be recorded:
 - a. The equipment involved.
 - b. Steps taken to minimize emissions during the event.
 - c. The duration of the event.
 - d. The estimated increase in emissions during the event.For each such case associated with an equipment malfunction, the additional information shall also be recorded:
 - e. The cause of the malfunction.
 - f. Steps taken to correct the malfunction.
 - g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

8.5. Reporting Requirements

- 8.5.1 Upon request by the Director, the permittee shall report deviations within a requested time from of any occurrences when the VRU or VCUs were operated outside of the parameters defined in the monitoring plan.
- 8.5.2. The permittee shall notify the Director of any downtime of the vapor recovery unit (VRU) in excess of 192 hours, based on the 12 month rolling total, in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days of the discovery and shall include, at a minimum, the following information: the dates and durations of each downtime event, the cause or suspected causes for each downtime event, any corrective measures taken or planned for each downtime event.

- 8.5.3 *VCU-1 thru VCU-4.* Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
- 8.5.4. *VCU-1 thru VCU-4.* Any deviation(s) from the flare design and operation criteria in Section 8.1.11 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of discovery of such deviation.

9.0. Source-Specific Requirements (Tank Truck Loading (TT Load))

9.1. Limitations and Standards

- 9.1.1. The permittee shall route all vapors from tank truck loading to the VRU system or to the Vapor Combustor System at all times that vapors are present. The permittee shall install, operate, and maintain the VRU/VCU system to achieve the capture/control efficiency of 99.8% for VOC emissions and in accordance with the requirements of Section 8.0 of this permit.
- 9.1.2. The permittee shall ensure that all condensate is loaded into tank trucks that are certified as meeting the MACT Annual Leak Test. Compliance with this requirement shall be demonstrated by keeping records of the MACT Annual Leak Test certification for every condensate truck loaded.
- 9.1.3. The maximum quantity of condensate that shall be loaded shall not exceed 4,300,000 gallons per year. Compliance with this limit shall be demonstrated using a twelve month rolling total. A twelve month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.
- 9.1.4. The maximum quantity of produced water that shall be loaded shall not exceed 3,024,000 gallons per year. Compliance with this limit shall be demonstrated using a twelve month rolling total. A twelve month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.

9.2. Recordkeeping Requirements

- 9.2.1. To demonstrate compliance with requirement 9.1.2, the permittee shall maintain records of the MACT Annual Leak Tests of all trucks loaded with condensate at this facility.
- 9.2.2. To demonstrate compliance with sections 9.1.3 and 9.1.4, the permittee shall maintain monthly and annual records that include the amount of condensate and produced water loaded into tank trucks. The annual records shall be calculated on a 12-month rolling total.
- 9.2.3. All records required under Section 9.2 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

10.0 Source-Specific Requirements (Glycol Dehydration Unit (RSV-1, HTR-11))

10.1. Limitations and Standards

10.1.1. *Maximum Throughput Limitation.* The maximum dry natural gas throughput to the glycol dehydration units/ still columns shall not exceed 80 MMSCFD. Compliance with the Maximum Throughput Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.

10.1.2. *Emission Limits.* Maximum emissions from the Glycol Regenerator Still Vent and Flash Tank [RSV-1] shall not exceed the following limits:

| Regulated Pollutant | Maximum Hourly Emissions (lb/hr) | Maximum Annual Emissions (tpy) |
|---------------------|-------------------------------------|-----------------------------------|
| Total VOC | 0.94 | 4.11 |
| Benzene | 0.01 | 0.01 |
| Total HAPs | 0.02 | 0.09 |

10.1.3. *Emission Calculations.*

- a. For purposes of determining potential HAP emissions, the methods specified in 40 CFR 63, Subpart HH (i.e. excluding compressor engines from HAP PTE) shall be used.
- b. For the purposes of determining actual annual average natural gas throughput or actual average benzene emissions, the methods specified in § 63.772(b) of 40 CFR 63, Subpart HH shall be used if the permittee is exempt from § 63.764(d).

10.1.4. *Control Devices.* The permittee shall comply with all applicable control device requirements provided in section 8.0 of this general permit for any control device used to control emissions from the dehydration unit and that is listed in Table 1.0 of this permit. Compliance will be demonstrated according to the requirements listed in Section 8.0 of this general permit.

10.1.5. *Glycol Dehydration Units Recycling Back to Flame Zone of the Reboiler.* The permittee shall design and operate the glycol dehydration unit that is recycled back to the flame zone of the reboiler in accordance with the following:

- a. The vapors/overheads from the still column [RSV-1] shall be routed through a condenser at all times when there is a potential that vapors (emissions) can be generated from the still column.
- b. The reboiler [HTR-11] shall only be fired with vapors from the still column and flash tank, and natural gas may be used as a supplemental fuel.
- c. The vapors/overheads from the still column [RSV-1] shall be introduced into the flame zone of the reboiler [HTR-11] as the primary fuel or with the primary fuel before the combustion chamber.
- d. The condenser shall be designed, operated, and maintained according to good engineering practices or manufacturer's recommendations so as to achieve, at a minimum, the control efficiency of 98% for the combined Reboiler/Condenser [HTR-11].

10.2. Monitoring Requirements

- 10.2.1. To demonstrate compliance with section 10.1.1, the permittee shall monitor the throughput of wet natural gas fed to the dehydration system on a monthly basis.
- 10.2.2. Representative gas sample collection and analysis frequency for dehydration units shall be determined based on the level of HAP emissions from the glycol dehydration unit of the facility as set forth in the schedule provided in the Table 10.2.2 of this section to demonstrate compliance with 10.1.2.

Table 10.2.2

| Wet Gas Sampling and Analysis Frequency for Dehydration Units Based on Potential HAP Emission Rates | |
|--|---|
| Each dehydration unit exempt from § 63.764(d) requirements and with federally enforceable controls | Upon request by the Director. |
| Each dehydration unit exempt from § 63.764(d) requirements and without federally enforceable controls | An initial compliance test within 180 days of permit issuance or within 180 days of start-up of the dehydration unit, whichever is later. Monitor and record bi-monthly the actual input parameters for GRI GLYCalc V3 or higher: (1) Wet gas or contactor temperature/degrees F; (2) Wet gas or contactor pressure/psig; (3) Lean glycol flow rate/gpm (in lieu of this parameter, 3.0 gal/lb H ₂ O may be used); (4) Dry gas water content/ lb H ₂ O/MMscf (in lieu of this parameter, 7 lb/MMscf may be used) |
| Every dehydration unit at or above 95% of HAPs major source levels exempt from § 63.764(d) requirements and without federally enforceable controls | The permittee shall sample and perform a wet gas analysis at least once each year for determining compliance with the HAP limits per the procedures in Section 10.3. |

- 10.2.3. To demonstrate compliance with section 10.1.3.b, the following parameters shall be measured at a minimum frequency of once per quarter, with the exception of wet gas composition, in order to define annual average values or, if monitoring is not practical, some parameters may be assigned default values as listed below.
- Natural Gas Flowrate;
 - Number of days operated per year;
 - Annual daily average (MMscf/day);
 - Maximum design capacity (MMscf/day)
 - Absorber temperature and pressure;
 - Lean glycol circulation rate;
 - Glycol pump type;
 - Flash tank temperature and pressure, if applicable;
 - Stripping Gas flow rate, if applicable;
 - Wet gas composition (upstream of the absorber – dehydration column);
 - Wet gas water content can be assumed to be saturated
 - Dry gas water content (lbs H₂O/MMscf) at a point directly after exiting the dehydration column and before any additional separation points, or assume pipeline quality at 7 lb H₂O / MMscf;
 - Lean glycol water content if not directly measured may use the default value of 1.5 % water as established by GRI; and
 - Lean glycol circulation rate may be estimated using the TEG recirculation ratio of

3 gal TEG /lb H₂O removed.

10.3. Testing Requirements

- 10.3.1. Compliance with 10.1.3 shall be determined using GRI-GLYCalc Version 3.0 or higher and the procedures presented in the associated GRI-GLYCalc Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit.
- 10.3.2. The permittee shall sample wet natural gas in accordance with the Gas Processor Association GPA Method 2166 and analyze the samples in accordance with GPA Method 2286. The permittee may utilize other equivalent methods provided they are approved in advance by DAQ as part of a testing protocol. If alternative methods are proposed, a test protocol shall be submitted for approval no later than 60 days before the scheduled test date.

Note: The DAQ defines a representative wet gas sample to be one that is characteristic of the average gas composition dehydrated throughout a calendar year. If an isolated sample is not indicative of the annual average composition, then a company may opt to produce a weighted average based on throughput between multiple sampling events, which can be used to define a more representative average annual gas composition profile.

10.4. Recordkeeping Requirements

- 10.4.1. To demonstrate compliance with section 10.1.1 of this permit, the permittee shall maintain records of the wet natural gas throughput through the glycol dehydration units on a monthly and rolling twelve month total.
- 10.4.2. For the purpose of demonstrating compliance with the emission limitations, the permittee shall maintain records of all monitoring data, wet gas sampling, and GRI-GLYCalcTM emission estimates.
- 10.4.3. All records required by this section shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

10.5. Reporting Requirements

- 10.5.1. The permittee shall submit the wet gas analysis report required by section 10.2.2 of this general permit within 60 days of conducting the sampling of the wet gas stream as required. This report shall include a potential to emit (PTE) estimate using GRI-GlyCalc Version 3.0 or higher, incorporating the specific parameters measured, as well as a copy of the laboratory analysis.
- 10.5.2. If the results of the compliance determination conducted as required in Section 10.2.2 predict the emissions to be greater than 9.5 tons per year for any single HAP, or a combined total of HAPs greater than 23.4 tons per year, the permittee shall submit such determination and all supporting documentation to the Director within 15 days after making such determination.

11.0. Source-Specific Requirements (40CFR60 Subpart OOOO Requirements, Gas Well Affected Facility)

11.1. Limitations and Standards

11.1.1 If you are the owner or operator of a gas well affected facility, you must comply with paragraphs (a) through (f) of this section. Except as provided in paragraph (f) of this section, for each well completion operation with hydraulic fracturing begun prior to January 1, 2015, you must comply with the requirements of paragraphs (a)(3) and (4) of this section unless a more stringent state or local emission control requirement is applicable; optionally, you may comply with the requirements of paragraphs (a)(1) through (4) of this section. For each new well completion operation with hydraulic fracturing begun on or after January 1, 2015, you must comply with the requirements in paragraphs (a)(1) through (4) of this section.

(a) (1) For the duration of flowback, route the recovered liquids into one or more storage vessels or re-inject the recovered liquids into the well or another well, and route the recovered gas into a gas flow line or collection system, re-inject the recovered gas into the well or another well, use the recovered gas as an on-site fuel source, or use the recovered gas for another useful purpose that a purchased fuel or raw material would serve, with no direct release to the atmosphere. If this is infeasible, follow the requirements in paragraph (a)(3) of this section.

(2) All salable quality gas must be routed to the gas flow line as soon as practicable. In cases where flowback emissions cannot be directed to the flow line, you must follow the requirements in paragraph (a)(3) of this section.

(3) You must capture and direct flowback emissions to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous ignition source over the duration of flowback.

(4) You have a general duty to safely maximize resource recovery and minimize releases to the atmosphere during flowback and subsequent recovery.

(b) You must maintain a log for each well completion operation at each gas well affected facility. The log must be completed on a daily basis for the duration of the well completion operation and must contain the records specified in § 60.5420(c)(1)(iii).

(c) You must demonstrate initial compliance with the standards that apply to gas well affected facilities as required by § 60.5410.

(d) You must demonstrate continuous compliance with the standards that apply to gas well affected facilities as required by § 60.5415.

(e) You must perform the required notification, recordkeeping and reporting as required by §60.5420.

(f) (1) For each gas well affected facility specified in paragraphs (f)(1)(i) and (ii) of this section, you must comply with the requirements of paragraphs (f)(2) and (3) of this section.

(i) Each well completion operation with hydraulic fracturing at a gas well affected facility meeting the criteria for a wildcat or delineation well.

(ii) Each well completion operation with hydraulic fracturing at a gas well affected

facility meeting the criteria for a non-wildcat low pressure gas well or non-delineation low pressure gas well.

- (2) You must capture and direct flowback emissions to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous ignition source over the duration of flowback. You must also comply with paragraphs (a)(4) and (b) through (e) of this section.
- (3) You must maintain records specified in § 60.5420(c)(1)(iii) for wildcat, delineation and low pressure gas wells.
[40CFR§60.5375]

11.2. Initial Compliance Demonstration

11.2.1. You must determine initial compliance with the standards for each affected facility using the requirements in paragraph (a) of this section. The initial compliance period begins on October 15, 2012 or upon initial startup, whichever is later, and ends no later than one year after the initial startup date for your affected facility or no later than one year after October 15, 2012. The initial compliance period may be less than one full year.

(a) To achieve initial compliance with the standards for each well completion operation conducted at your gas well affected facility you must comply with paragraphs (a)(1) through (a)(4) of this section.

- (1) You must submit the notification required in § 60.5420(a)(2).
- (2) You must submit the initial annual report for your well affected facility as required in § 60.5420(b).
- (3) You must maintain a log of records as specified in § 60.5420(c)(1) for each well completion operation conducted during the initial compliance period.
- (4) For each gas well affected facility subject to both § 60.5375(a)(1) and (3), you must maintain records of one or more digital photographs with the date the photograph was taken and the latitude and longitude of the well site imbedded within or stored with the digital file showing the equipment for storing or re-injecting recovered liquid, equipment for routing recovered gas to the gas flow line and the completion combustion device (if applicable) connected to and operating at each gas well completion operation that occurred during the initial compliance period. As an alternative to imbedded latitude and longitude within the digital photograph, the digital photograph may consist of a photograph of the equipment connected and operating at each well completion operation with a photograph of a separately operating GIS device within the same digital picture, provided the latitude and longitude output of the GIS unit can be clearly read in the digital photograph.
[40CFR§60.5410]

11.3. Continuous Compliance Demonstration

11.3.1. For each gas well affected facility, you must demonstrate continuous compliance by submitting the reports required by § 60.5420(b) and maintaining the records for each completion operation specified in § 60.5420(c)(1).

11.3.2. Affirmative defense for violations of emission standards during malfunction. In response to an action to enforce the standards set forth in §§ 60.5375, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined

at § 60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(1) To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in § 60.5420(a), and must prove by a preponderance of evidence that:

(i) The violation:

(A) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(B) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(C) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(D) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(ii) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(iii) The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(iv) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(v) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and

(vi) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(vii) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(viii) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and

(ix) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(2) Report. The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (h)(1) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report

may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.
[40CFR§60.5415]

11.4. Notification, Recordkeeping and Reporting Requirements

11.4.1. You must submit the notifications required in § 60.7(a)(1) and (4), and according to paragraphs (a)(1) and (2) of this section, if you own or operate one or more of the affected facilities specified in § 60.5365 that was constructed, modified, or reconstructed during the reporting period.

(1) If you own or operate a gas well, pneumatic controller or storage vessel affected facility you are not required to submit the notifications required in § 60.7(a)(1), (3), and (4).

(2) (i) If you own or operate a gas well affected facility, you must submit a notification to the Administrator no later than 2 days prior to the commencement of each well completion operation listing the anticipated date of the well completion operation. The notification shall include contact information for the owner or operator; the API well number, the latitude and longitude coordinates for each well in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983; and the planned date of the beginning of flowback. You may submit the notification in writing or in electronic format.

(ii) If you are subject to state regulations that require advance notification of well completions and you have met those notification requirements, then you are considered to have met the advance notification requirements of paragraph (a)(2)(i) of this section.

[40CFR§60.5420(a)]

11.4.2. *Reporting requirements.* You must submit annual reports containing the information specified in paragraphs (b)(1) through (6) of this section to the Administrator and performance test reports as specified in paragraph (b)(7) of this section. The initial annual report is due 30 days after the end of the initial compliance period as determined according to § 60.5410. Subsequent annual reports are due on the same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (b)(1) through (6) of this section. Annual reports may coincide with title V reports as long as all the required elements of the annual report are included. You may arrange with the Administrator a common schedule on which reports required by this part may be submitted as long as the schedule does not extend the reporting period.

(1) The general information specified in paragraphs (b)(1)(i) through (iv) of this section.

(i) The company name and address of the affected facility.

(ii) An identification of each affected facility being included in the annual report.

(iii) Beginning and ending dates of the reporting period.

(iv) A certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(2) For each gas well affected facility, the information in paragraphs (b)(2)(i) through (ii) of this section.

(i) Records of each well completion operation as specified in paragraph (c)(1)(i) through (iv) of this section for each gas well affected facility conducted during the reporting period. In lieu of submitting the records specified in paragraph (c)(1)(i) through (iv), the owner or operator may

submit a list of the well completions with hydraulic fracturing completed during the reporting period and the records required by paragraph (c)(1)(v) of this section for each well completion.

(ii) Records of deviations specified in paragraph (c)(1)(ii) of this section that occurred during the reporting period.

[40CFR§60.5420(b)]

11.4.3. *Recordkeeping requirements.* You must maintain the records identified as specified in § 60.7(f) and in paragraph (c)(1) of this section. All records must be maintained for at least 5 years.

(1) The records for each gas well affected facility as specified in paragraphs (c)(1)(i) through (v) of this section.

(i) Records identifying each well completion operation for each gas well affected facility;

(ii) Records of deviations in cases where well completion operations with hydraulic fracturing were not performed in compliance with the requirements specified in § 60.5375.

(iii) Records required in § 60.5375(b) or (f) for each well completion operation conducted for each gas well affected facility that occurred during the reporting period. You must maintain the records specified in paragraphs (c)(1)(iii)(A) and (B) of this section.

(A) For each gas well affected facility required to comply with the requirements of § 60.5375(a), you must record: The location of the well; the API well number; the duration of flowback; duration of recovery to the flow line; duration of combustion; duration of venting; and specific reasons for venting in lieu of capture or combustion. The duration must be specified in hours of time.

(B) For each gas well affected facility required to comply with the requirements of § 60.5375(f), you must maintain the records specified in paragraph (c)(1)(iii)(A) of this section except that you do not have to record the duration of recovery to the flow line.

(iv) For each gas well facility for which you claim an exception under § 60.5375(a)(3), you must record: The location of the well; the API well number; the specific exception claimed; the starting date and ending date for the period the well operated under the exception; and an explanation of why the well meets the claimed exception.

(v) For each gas well affected facility required to comply with both § 60.5375(a)(1) and (3), records of the digital photograph as specified in § 60.5410(a)(4).

[40CFR§60.5420(c)]

12.0. Source-Specific Requirements [Pneumatic Controllers Affected Facility (NSPS, Subpart OOOO)]

12.1. Limitations and Standards

12.1.1. The permittee is subject to the applicable provisions of this permit section 12.0 if you are the owner or operator of the onshore affected facilities listed in paragraphs (a) below for which you commence construction, modification or reconstruction after August 23, 2011.

a. For the natural gas production segment (between the wellhead and the point of custody transfer to the natural gas transmission and storage segment and not including natural gas processing plants), each pneumatic controller affected facility, which is a single continuous

bleed natural gas-driven pneumatic controller operating at a natural gas bleed rate greater than 6 scfh. **[NSPS, Subpart OOOO; §60.5365 (d)(2)]**

- 12.1.2. For each pneumatic controller affected facility you must comply with the VOC standards, based on natural gas as a surrogate for VOC, in section 12.1.3 of this permit. Pneumatic controllers meeting the conditions in paragraph (a) of this section are exempt from this requirement.
- a. The requirements of sections 12.1.3 of this permit is not required if you determine that the use of a pneumatic controller affected facility with a bleed rate greater than the applicable standard is required based on functional needs, including but not limited to response time, safety and positive actuation. However, you must tag such pneumatic controller with the month and year of installation, reconstruction or modification, and identification information that allows traceability to the records for that pneumatic controller, as required in section 12.4.1.(ii) of this permit. **[NSPS, Subpart OOOO; §60.5390 (a)]**
- 12.1.3. Each pneumatic controller affected facility constructed, modified or reconstructed on or after October 15, 2013 at a location between the wellhead and a natural gas processing plant or to the point of custody transfer to an oil pipeline must have a bleed rate less than or equal to 6 standard cubic feet per hour. **[NSPS, Subpart OOOO; §60.5390 (c)(1)]**
- 12.1.4. Each pneumatic controller affected facility at a location between the wellhead and a natural gas processing plant or to the point of custody transfer to an oil pipeline must be tagged with the month and year of installation, reconstruction or modification, and identification information that allows traceability to the records for that controller as required in section 12.4.1(iii) of this permit. **[NSPS, Subpart OOOO; §60.5390 (c)(2)]**
- 12.1.5. The registrant shall demonstrate initial compliance with standards that apply to pneumatic controller affected facilities as required by Section 12.1.8 of this permit. **[NSPS, Subpart OOOO; §60.5390 (d)]**
- 12.1.6. The permittee shall demonstrate continuous compliance with standards that apply to pneumatic controller affected facilities as required by section 12.1.9 of this permit. **[NSPS, Subpart OOOO; §60.5390 (e)]**
- 12.1.7. The permittee shall perform the required notification, recordkeeping, and reporting as required by sections 12.4.1 and 12.5.1 of this permit, except that you are not required to submit the notifications specified in §60.5420(a). **[NSPS, Subpart OOOO; §60.5390 (f)]**
- 12.1.8. *Initial Compliance.* To achieve initial compliance with emission standards for your pneumatic controller affected facility, the permittee shall comply with the requirements specified in paragraphs (1) through (6) of this section, as applicable.
1. You must demonstrate initial compliance by maintaining records as specified in section 12.4.1(ii) of this permit of your determination that the use of a pneumatic controller affected facility with a bleed rate greater than 6 standard cubic feet of gas per hour is required as specified in section 12.1.2(a) of this permit.
 2. *Reserved.*
 3. You own or operate a pneumatic controller affected facility located between the wellhead and a natural gas processing plant and the manufacturer's design specifications indicate that the controller emits less than or equal to 6 standard cubic feet of gas per hour.
 4. You must tag each new pneumatic controller affected facility according to the requirements of section 12.1.4 of this permit.

5. You must include the information in paragraph (1) of this section and a listing of the pneumatic controller affected facilities specified in paragraphs (2) and (3) of this section in the initial annual report submitted for your pneumatic controller affected facilities constructed, modified or reconstructed during the period covered by the annual report according to the requirements of section 12.5.1 of this permit.
 6. You must maintain the records as specified in section 12.4.1 of this permit for each pneumatic controller affected facility.
[NSPS, Subpart OOOO; §60.5410(d)]
- 12.1.9. *Continuous Compliance.* For each pneumatic controller affected facility, the permittee shall demonstrate continuous compliance according to paragraphs (1) through (3) of this section.
1. You must continuously operate the pneumatic controllers as required in section 12.1.2 of this permit.
 2. You must submit the annual report as required in section 12.5.1 of this permit.
 3. You must maintain records as required in section 12.4.1 of this permit.
[NSPS, Subpart OOOO; §60.5415(d)]
- 12.1.10. *Affirmative defense for violations of emission standards during malfunction.* In response to an action to enforce the standards set forth in § 60.5390, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at §60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.
1. To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in section 12.1.10.2 of this permit and must prove by a preponderance of evidence that:
 - i. The violation:
 - A. Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and
 - B. Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
 - C. Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
 - D. Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
 - ii. Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
 - iii. The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and
 - iv. If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

- v. All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and
 - vi. All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
 - vii. All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
 - viii. At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and
 - ix. A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.
2. *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (1) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard. [NPS, Subpart OOOO; 40CFR§60.5415(h)]

12.2. Monitoring Requirements

Reserved.

12.3. Testing Requirements

See Facility-Wide Testing Requirements Section 3.3.

12.4. Recordkeeping Requirements

- 12.4.1. You must maintain the records identified as specified in §60.7(f). For each pneumatic controller affected facility, you must maintain the records identified in paragraphs (i) through (v) of this section. All records must be maintained either onsite or at the nearest local field office for at least 5 years.
- i. Records of the date, location and manufacturer specifications for each pneumatic controller constructed, modified or reconstructed.
 - ii. Records of the demonstration that the use of pneumatic controller affected facilities with a natural gas bleed rate greater than the applicable standard are required and the reasons why.
 - iii. If the pneumatic controller is not located at a natural gas processing plant, records of the manufacturer's specifications indicating that the controller is designed such that natural gas bleed rate is less than or equal to 6 standard cubic feet per hour.

- iv. If the pneumatic controller is located at a natural gas processing plant, records of the documentation that the natural gas bleed rate is zero.
- v. Records of deviations in cases where the pneumatic controller was not operated in compliance with the requirements specified in §60.5390.
[NSPS, Subpart OOOO; §60.5420(c)(4)]

12.5. Reporting Requirements

12.5.1. The permittee shall submit annual reports containing the information specified in this section to the Administrator. The initial annual report is due no later than 90 days after the end of the initial compliance period as determined according to section 12.1.8 of this permit. Subsequent annual reports are due no later than the same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (2) and (3) below. You may arrange with the Administrator a common schedule on which reports required by this part may be submitted as long as the schedule does not extend the reporting period.

- 1. The general information specified below:
 - i. The company name and address of the affected facility.
 - ii. An identification of each affected facility being included in the annual report.
 - iii. Beginning and ending dates of the reporting period.
 - iv. A certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
[NSPS, Subpart OOOO; §60.5420 (b) (1)]
- 2. For each pneumatic controller affected facility, the information specified in paragraphs (i) through (iii) of this section:
 - i. An identification of each pneumatic controller constructed, modified or reconstructed during the reporting period, including the identification information specified in section 12.1.4 of this permit.
 - ii. If applicable, documentation that the use of pneumatic controller affected facilities with a natural gas bleed rate greater than 6 standard cubic feet per hour are required and the reasons why.
 - iii. Records of deviations specified in section 12.4.1 (v) of this permit that occurred during the reporting period.
[NSPS, Subpart OOOO; §60.5420(b)(5)]
- 3. All reports required by section 12.5 of the general permit must be sent to the Administrator at the appropriate address listed in §60.4 of this part. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy).
[NSPS, Subpart OOOO; §60.5420(b)(7)(ii)]

13.0. Source-Specific Requirements 40CFR60 Subpart JJJJ Requirements (CE-1, CE-2, CE-3)

13.1. Limitations and Standards

13.1.1. Emission Standards (CE-1, CE-2)

Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified. [§ 60.4233(e)]

13.1.2. Emission Standards (CE-3)

Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards for field testing in 40 CFR 1048.101(c) for their non-emergency stationary SI ICE and with the emission standards in Table 1 to this subpart for their emergency stationary SI ICE. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP, may optionally choose to meet those standards.

[§ 60.4233(d)]

13.1.3. Importing/Installing Requirements (CE-1, CE-2)

a. These requirements do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location.

b. After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in §60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP that do not meet the applicable requirements in §60.4233 may not be installed after January 1, 2010.

[§ 60.4236(b)]

13.1.4. Importing/Installing Requirements (CE-3)

a. These requirements do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location.

b. After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in §60.4233.

[§ 60.4236(a)]

13.2. Compliance Requirements

13.2.1. *General Compliance.* Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine. [§ 60.4234]

13.2.2. *AFR Controller (CE-1, CE-2)*. It is expected that air-to-fuel ratio controllers will be used with the operation of three- way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [§ 60.4243(g)]

13.2.3. *Non-certified Engines (CE-1, CE-2)*. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to:

If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

[§ 60.4243(b)(2)(ii)]

13.2.4. *Non-certified Engines (CE-3)*. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to:

If you are an owner or operator of a stationary sparking ignition internal combustion engine greater than 25 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.

[§ 60.4243(b)(2)(i)]

13.3. Performance Testing for Non-certified Engines

13.3.1. *(CE-1, CE-2)* If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance. [§ 60.4243(b)(2)(ii)]

13.3.2. *(CE-3)* If you are an owner or operator of a stationary sparking ignition internal combustion engine greater than 25 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance. [§ 60.4243(b)(2)(i)]

13.3.3. *(CE-1, CE-2, CE-3)* Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary sparking ignition internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

(d) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 1 of this section:

Where:

ER = Emission rate of NO_x in g/HP-hr.

C_d = Measured NO_x concentration in parts per million by volume (ppmv).

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 20° C.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).⁴

(e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

Where:

ER = Emission rate of CO in g/HP-hr.

C_d = Measured CO concentration in ppmv.

1.164×10^{-3} = Conversion constant for ppm CO to grams per standard cubic meter at 20°C.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(f) For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

Where:

ER = Emission rate of VOC in g/HP-hr.

C_d = VOC concentration measured as propane in ppmv.

1.833×10^{-3} = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.5

(g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

Where:

RF_i = Response factor of compound i when measured with EPA Method 25A.

C_M_i = Measured concentration of compound i in ppmv as carbon.

C_A_i = True concentration of compound i in ppmv as carbon.

Where:

C_i_{corr} = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

C_i_{meas} = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

Where:

C_{Peq} = Concentration of compound i in mg of propane equivalent per DSCM.
[§ 60.4244]

13.4. Notification, Reporting, Recordkeeping Requirements

13.4.1. Owners and operators of all stationary sparking ignition internal combustion engine must keep records of the information in paragraphs (a)(1) through (4) of this section.

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) If the stationary sparking ignition internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

(4) If the stationary sparking ignition internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

[§ 60.4245(a)]

13.4.2. Owners and operators of stationary sparking ignition internal combustion engine that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed. [§ 60.4245(d)]

13.4.3. *General Provisions.* Table 3 to this subpart shows which parts of the General Provisions in §60.1 through §60.19 apply to you. [§ 60.4246]

- 13.4.4. (CE-1, CE-2) Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

- (1) Name and address of the owner or operator;
 - (2) The address of the affected source;
 - (3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
 - (4) Emission control equipment; and
 - (5) Fuel used.
- [§ 60.4245(c)]

14.0. Source-Specific Requirements (40CFR63 Subpart ZZZZ Requirements (CE-1, CE-2, CE-3))

14.1. Limitations and Standards

- 14.1.1. The permittee must comply with the applicable operating limitations in this section no later than October 19, 2013.
[40 C.F.R. § 63.6595(a)]
- 14.1.2. *Stationary RICE subject to Regulation under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

The permittee meets the criteria of paragraph (c)(1), which is for a new or reconstructed stationary RICE located at an area source. The permittee must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart JJJJ.
[40 C.F.R. § 63.6590(c)]

15.0 Source-Specific Requirements [Dehydration Units With Exemption from NESHAP Standard, Subpart HH § 63.764(d)]

15.1. Limitations and Standards

- 15.1.1. Facilities that are area sources of hazardous air pollutants (HAP) as defined in § 63.761. Emissions for major source determination purposes can be estimated using the maximum natural gas or hydrocarbon liquid throughput, as appropriate, calculated in paragraphs (1)(i) through (iii) of this section. As an alternative to calculating the maximum natural gas or hydrocarbon liquid throughput, the owner or operator of a new or existing source may use the facility's design maximum natural gas or hydrocarbon liquid throughput to estimate the maximum potential emissions. Other means to determine the facility's major source status are allowed, provided the information is documented and recorded to the Administrator's satisfaction in accordance with § 63.10(b)(3).

- (i) If the owner or operator documents, to the Administrator's satisfaction, a decline in annual natural gas or hydrocarbon liquid throughput, as appropriate, each year for the 5 years prior to October 15, 2012, the owner or operator shall calculate the maximum natural gas or hydrocarbon liquid throughput used to determine maximum potential emissions according to the requirements specified in paragraph (1)(i)(A) of this section. In all other circumstances, the owner or operator shall calculate the maximum throughput used to determine whether a facility is a major source in accordance with the requirements specified in paragraph (1)(i)(B) of this section.
 - (A) The maximum natural gas or hydrocarbon liquid throughput is the average of the annual natural gas or hydrocarbon liquid throughput for the 3 years prior to October 15, 2012, multiplied by a factor of 1.2.
 - (B) The maximum natural gas or hydrocarbon liquid throughput is the highest annual natural gas or hydrocarbon liquid throughput over the 5 years prior to October 15, 2012, multiplied by a factor of 1.2.
 - (ii) The owner or operator shall maintain records of the annual facility natural gas or hydrocarbon liquid throughput each year and upon request submit such records to the Administrator. If the facility annual natural gas or hydrocarbon liquid throughput increases above the maximum natural gas or hydrocarbon liquid throughput calculated in paragraph (1)(i)(A) or (1)(i)(B) of this section, the maximum natural gas or hydrocarbon liquid throughput must be recalculated using the higher throughput multiplied by a factor of 1.2.
 - (iii) The owner or operator shall determine the maximum values for other parameters used to calculate emissions as the maximum for the period over which the maximum natural gas or hydrocarbon liquid throughput is determined in accordance with paragraph (1)(i)(A) or (B) of this section. Parameters, other than glycol circulation rate, shall be based on either highest measured values or annual average. For estimating maximum potential emissions from glycol dehydration units, the glycol circulation rate used in the calculation shall be the unit's maximum rate under its physical and operational design consistent with the definition of potential to emit in § 63.2.
[NESHAP, Subpart HH; § 63.760 (a)(1)]
- 15.1.2. For area sources, the affected source includes each triethylene glycol (TEG) dehydration unit located at a facility that meets the criteria specified in § 63.760(a).
[NESHAP, Subpart HH; § 63.760 (b)(2)]
- 15.1.3. Any source that determines it is not a major source but has actual emissions of 5 tons per year or more of a single HAP, or 12.5 tons per year or more of a combination of HAP (*i.e.*, 50 percent of the major source thresholds), shall update its major source determination within 1 year of the prior determination or October 15, 2012, whichever is later, and each year thereafter, using gas composition data measured during the preceding 12 months.
[NESHAP, Subpart HH; § 63.760 (c)]
- 15.1.4. The owner and operator of a facility that does not contain an affected source as specified in § 63.760 (b) are not subject to the requirements of this subpart.
[NESHAP, Subpart HH; § 63.760 (d)]
- 15.1.5. The owner or operator of an affected area source shall achieve compliance with the provisions of this subpart by the dates specified in paragraphs (3) through (6) of this section.
- (1) *Reserved.*
- (2) *Reserved.*

- (3) The owner or operator of an affected area source, located in an Urban-1 county, as defined in § 63.761, the construction or reconstruction of which commences before February 6, 1998, shall achieve compliance with the provisions of this subpart no later than the dates specified in paragraphs (f)(3)(i) or (ii) of this section, except as provided for in § 63.6(i).
 - (i) If the affected area source is located within any UA plus offset and UC boundary, as defined in § 63.761, the compliance date is January 4, 2010.
 - (ii) If the affected area source is not located within any UA plus offset and UC boundary, as defined in § 63.761, the compliance date is January 5, 2009.
 - (4) The owner or operator of an affected area source, located in an Urban-1 county, as defined in § 63.761, the construction or reconstruction of which commences on or after February 6, 1998, shall achieve compliance with the provisions of this subpart immediately upon initial startup or January 3, 2007, whichever date is later.
 - (5) The owner or operator of an affected area source that is not located in an Urban-1 county, as defined in § 63.761, the construction or reconstruction of which commences before July 8, 2005, shall achieve compliance with the provisions of this subpart no later than the dates specified in paragraphs (i) or (ii) of this section, except as provided for in § 63.6(i).
 - (i) If the affected area source is located within any UA plus offset and UC boundary, as defined in § 63.761, the compliance date is January 4, 2010.
 - (ii) If the affected area source is not located within any UA plus offset and UC boundary, as defined in § 63.761, the compliance date is January 5, 2009.
 - (6) The owner or operator of an affected area source that is not located in an Urban-1 county, as defined in § 63.761, the construction or reconstruction of which commences on or after July 8, 2005, shall achieve compliance with the provisions of this subpart immediately upon initial startup or January 3, 2007, whichever date is later.
[NESHAP, Subpart HH; § 63.760 (f)]
- 15.1.6. Unless otherwise required by law, the owner or operator of an area source subject to the provisions of this subpart is exempt from the permitting requirements established by 40 CFR part 70 or 40 CFR part 71. **[NESHAP, Subpart HH; § 63.760 (h)]**
- 15.1.7. *Exemptions.* (1) The owner or operator of an area source is exempt from the requirements of paragraph (d) of § 63.764 if the criteria listed in paragraph (1)(i) or (ii) of this section are met, except that the records of the determination of these criteria must be maintained as required in § 63.774(d)(1).
 - (i) The actual annual average flowrate of natural gas to the glycol dehydration unit is less than 85 thousand standard cubic meters per day, as determined by the procedures specified in § 63.772(b)(1) of this subpart; or
 - (ii) The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in § 63.772(b)(2) of this subpart.
[NESHAP, Subpart HH; § 63.764 (e)]
- 15.1.8. Table 2 of this subpart specifies the provisions of subpart A (General Provisions) of this part that apply and those that do not apply to owners and operators of affected sources subject to this subpart. **[NESHAP, Subpart HH; § 63.764 (a)]**

15.1.9. *Affirmative defense for violations of emission standards during malfunction.*

- (a) The provisions set forth in this subpart shall apply at all times.
- (b)-(c) *Reserved.*
- (d) In response to an action to enforce the standards set forth in this subpart, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined in 40 CFR 63.2. Appropriate penalties may be assessed; however, if you fail to meet your burden of proving all of the requirements in the affirmative defense, the affirmative defense shall not be available for claims for injunctive relief.
 - (1) To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (d)(2) of this section, and must prove by a preponderance of evidence that:
 - (i) The violation:
 - (A) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and
 - (B) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
 - (C) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
 - (D) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
 - (ii) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
 - (iii) The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and
 - (iv) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
 - (v) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health; and
 - (vi) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
 - (vii) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
 - (viii) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and
 - (ix) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

- (2) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (d)(1) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

[NESHAP, Subpart HH; §63.762]

- 15.1.10. Any future amendments to 40 CFR Part 63, subpart HH shall supersede the subpart HH requirements contained in this general permit.

15.2. Monitoring Requirements

Reserved.

15.3. Testing Requirements

15.3.1. *Determination of glycol dehydration unit flowrate, benzene emissions, or BTEX emissions.* The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate, benzene emissions, or BTEX emissions.

(1) The determination of actual flowrate of natural gas to a glycol dehydration unit shall be made using the procedures of either paragraph (1)(i) or (1)(ii) of this section.

(i) The owner or operator shall install and operate a monitoring instrument that directly measures natural gas flowrate to the glycol dehydration unit with an accuracy of plus or minus 2 percent or better. The owner or operator shall convert annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.

(ii) The owner or operator shall document, to the Administrator's satisfaction, the actual annual average natural gas flowrate to the glycol dehydration unit.

(2) The determination of actual average benzene or BTEX emissions from a glycol dehydration unit shall be made using the procedures of either paragraph (2)(i) or (ii) of this section. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.

(i) The owner or operator shall determine actual average benzene or BTEX emissions using the model GRI-GLYCalc™, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1); or

(ii) The owner or operator shall determine an average mass rate of benzene or BTEX emissions in kilograms per hour through direct measurement using the methods in § 63.772(a)(1)(i) or (ii), or an alternative method according to § 63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.

[NESHAP, Subpart HH; § 63.772 (b)]

15.4. Recordkeeping Requirements

15.4.1. The recordkeeping provisions of 40 CFR part 63, subpart A, that apply and those that do not apply to owners and operators of sources subject to this subpart are listed in Table 2 of this subpart.

[NESHAP, Subpart HH; § 63.774 (a)]

15.4.2. *Exemption Records.* An owner or operator of a glycol dehydration unit that meets the exemption criteria in § 63.764(e)(1)(i) or § 63.764(e)(1)(ii) shall maintain the records specified in paragraph (i) or paragraph (ii) of this section, as appropriate, for that glycol dehydration unit.

(i) The actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) as determined in accordance with § 63.772(b)(1), or

- (ii) The actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with § 63.772(b)(2).
[NESHAP, Subpart HH; § 63.774 (d)(1)]

15.5. Reporting Requirements

- 15.5.1. All reports required under this subpart shall be sent to the Administrator at the appropriate address listed in § 63.13. Reports may be submitted on electronic media.
[NESHAP, Subpart HH; § 63.764 (b)]
- 15.5.2. The reporting provisions of subpart A of this part, that apply and those that do not apply to owners and operators of sources subject to this subpart are listed in Table 2 of this subpart.
[NESHAP, Subpart HH; § 63.775 (a)]
- 15.5.3. An owner or operator of a TEG dehydration unit located at an area source that meets the criteria in § 63.764(e)(1)(i) or § 63.764(e)(1)(ii) is exempt from the reporting requirements for area sources in paragraphs (c)(1) through (7) of this section, for that unit.
[NESHAP, Subpart HH; § 63.775 (c)(8)]
- 15.5.4. *Notification of Compliance Status Reports.*
Area sources that meet § 63.764(e) do not have to submit initial notifications.
[Table 2 to Subpart HH of Part 63; §63.9(b)(2)]

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature¹

(please use blue ink)

Responsible Official or Authorized Representative

Date

Name & Title

(please print or type)

Name

Title

Telephone No. _____

Fax No. _____

¹ This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.